EXHIBIT B

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

DONALD AGEE, JR., an individual, *et al.,*

        Plaintiffs,

v.

JOCELYN BENSON, in her official capacity as the Secretary of State of Michigan, *et al.*;

        Defendants.

Case No. 1:22-cv-00272

Three-Judge Panel Appointed Pursuant to 28 U.S.C. § 2284(a)

DECLARATION OF SEAN P. TRENDE

I, Sean P. Trende, being first duly sworn, do hereby state that I can testify truthfully and competently, with personal knowledge, to the following facts:

1.   My name is Sean P. Trende. I am at least 18 years of age and reside at 1146 Elderberry Loop, Delaware, OH 43015. I am a retained expert in this matter and provided expert testimony at trial in this case.

2.   I have been asked by counsel to perform two tasks. First, I was asked to attempt to draw remedial maps for the Michigan House of Representatives ("House") and Michigan Senate ("Senate") that complied with this Court's Opinion and Order dated December 21, 2023 ("Order").

3.   These maps are not submitted as remedial maps, as this Court has not announced what process to use for remedying the constitutional violations it identified in its Order. Rather, they are offered as "proof of concept," to help this Court understand the task before it, and the possible scope of a remedy.

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4.   To draw the maps, I limited myself to redrawing only those districts necessary to remedy the ills this Court identified. I first removed all precincts contained within districts that this Court identified as violating the 14th Amendment. In the House, these are districts 1, 7, 8, 10, 11, 12 and 14.

5.   There were a handful of adjacent districts that needed to be redrawn as well, as they were inextricably linked with the overall design. That is to say, if they were not removed, it would be difficult to remedy the violation identified. For example, leaving District 9 in place forces any map to contain a district that runs through the narrow "corridor" between that district and the Detroit River, forcing a map drawer to recreate something very similar to unconstitutional District 10. Without redrawing districts 9 and 4, it is very difficult to avoid an almost exact redraw of District 1. Without redrawing District 13, it was virtually impossible to avoid drawing a close cousin to unconstitutional District 14. Thus, to avoid such an outcome, I also redrew districts 4, 6, 9 and 13. Collectively, I refer to these districts as the "Redrawn Districts." I refer to the precincts contained within the Redrawn Districts as the "Reassigned Precincts."

6.   Because this Court did not rule on the Voting Rights Act claim, I did not attempt to draw a certain number of majority-Black districts or reach any particular racial target. Instead, I drew race-neutral maps that were equipopulous (within 2.5% in either direction of the ideal district population), were contiguous, reflected communities of interest, considered county, city and township lines, and were reasonably compact. As expected, however, a race-neutral draw that respects county, city and township lines will naturally produce multiple majority-Black districts in the Detroit area.
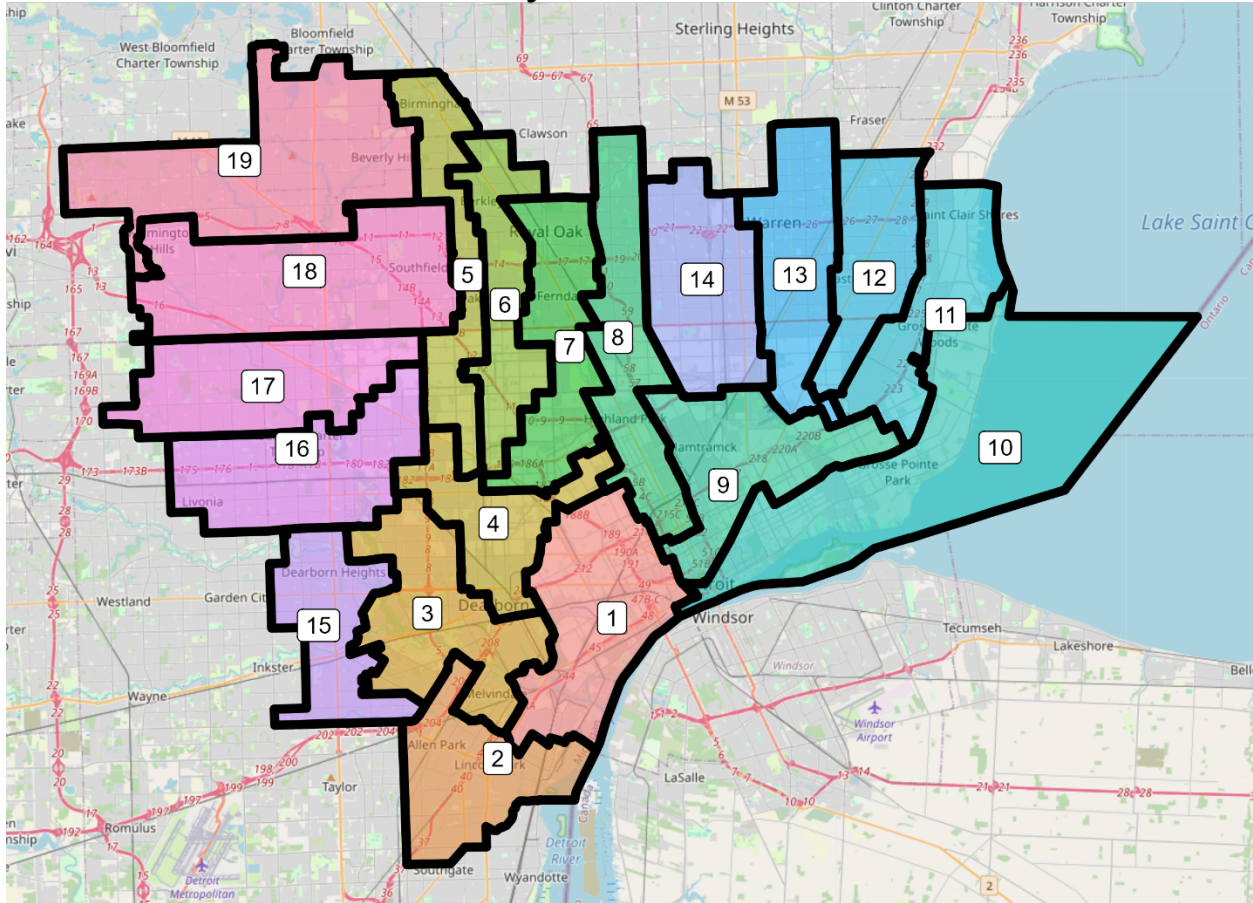
7.   Because Detroit's precincts split neighborhood lines regularly, it was not possible to avoid splitting neighborhood lines without splitting multiple precincts. The Commission chose

to avoid splitting precincts, and I followed suit. Nevertheless, I attempted to respect neighborhood lines to the extent possible, and to follow naturally occurring boundaries such as rivers, major road arteries, and where possible, neighborhood boundaries.

8.   Finally, in the end I checked to see if I had substantially altered the partisan redistricting metrics selected by the Commission, and whether the map looked like maps drawn without respect to race.
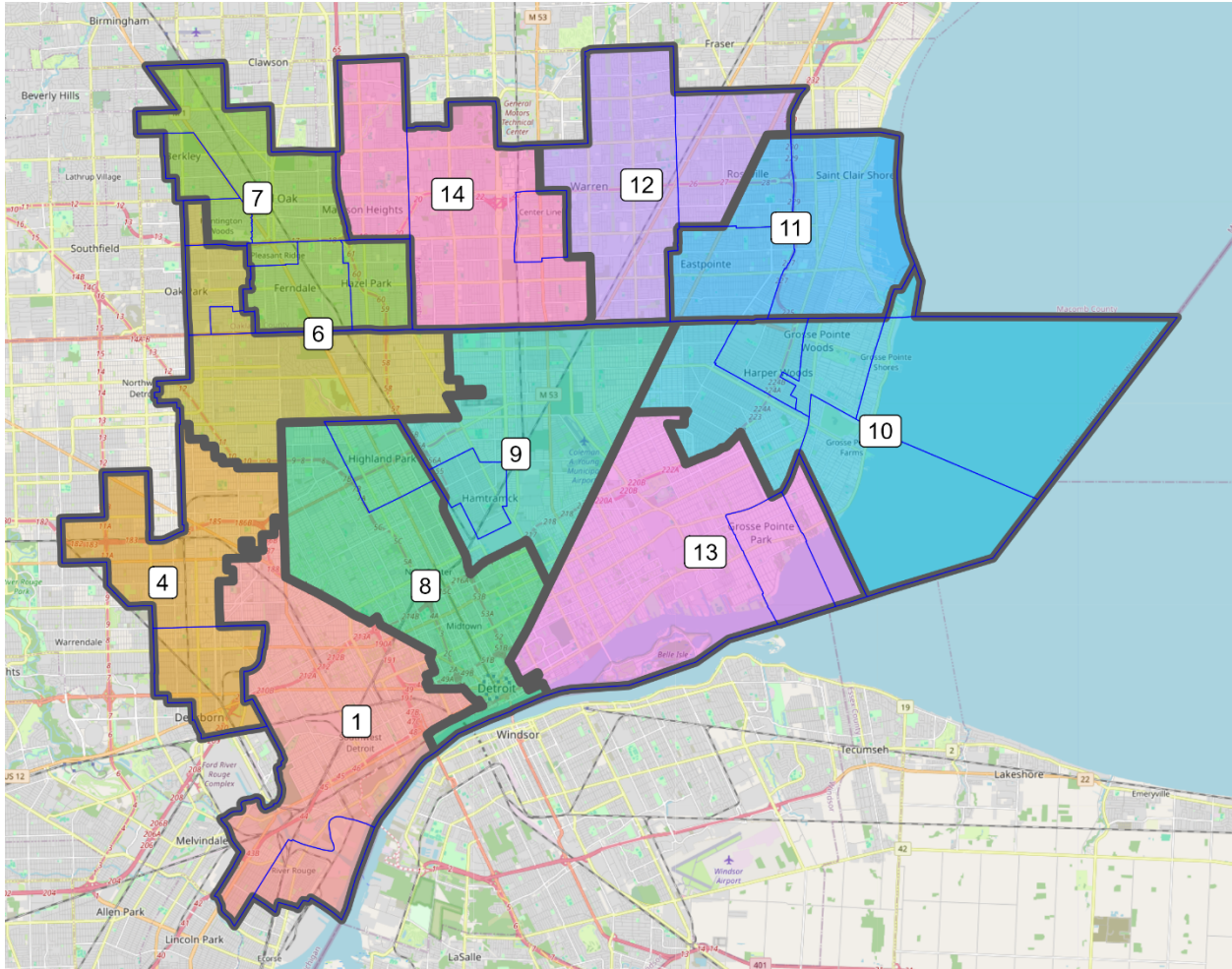
9.   For a point of reference, these are the Detroit-area Hickory districts.

Hickory Districts, 1-19

10.   For the House, I produced the following map. I did this over the course of the

afternoon of December 29, 2023.

Demonstration House Districts, 1, 4, 6-14

11.   The blue lines represent city boundaries. The map crosses the Macomb-Wayne County boundary once (in District 11, to keep the Village of Grosse Pointe Shores intact), the Oakland-Wayne County boundary once (in District 8) and the Macomb-Wayne County boundary once (in District 6).

12.   The districts split just four municipalities within the Reassigned Precincts: Roseville, Warren, Huntington Woods, and Detroit.[1] Of these, Detroit and Warren must be split for one-person-one-vote purposes. One of the southern Oakland County municipalities must be split for one-person-one-vote-purposes. Finally, either Eastpointe or Roseville must be split for one-person-one-vote purposes.

13.   In general, the Redrawn Districts are more compact than their counterparts in the Hickory Map.[2] The average Reock score for the Redrawn Districts is 0.393, while the average Reock score for the counterparts in the Hickory map is 0.32.[3] The average Polsby-Popper score for the Redrawn Districts is 0.415, while the average Polsby-Popper score for the counterparts in the Hickory map is 0.331.[4]

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[1] Additional municipalities are split in the map, such as Dearborn. But these splits involve splits between the Redrawn Districts and the districts that were not struck down by this Court. The portion of those municipalities within the Reassigned Precincts are not split. In other words, the portion of Dearborn contained within the Reassigned Precincts is kept intact, even though the city is split between Redrawn District 4 and District 3 and 15 from the Hickory Plan.

[2] Of course, these districts don't have a 1-to-1 correspondence, since boundaries are often changed almost completely. For example, the Demonstration Plan District 13 has a substantially different configuration than the Hickory Plan version of District 13.

[3] Recall that the Reock score is the percentage of the bounding circle that the district fills. Thus, a higher score suggests a more compact district.

[4] Recall that the Polsby-Popper score is the percentage of a circle with the same perimeter as the district that the district fills. Thus, a higher score suggests a more compact district.

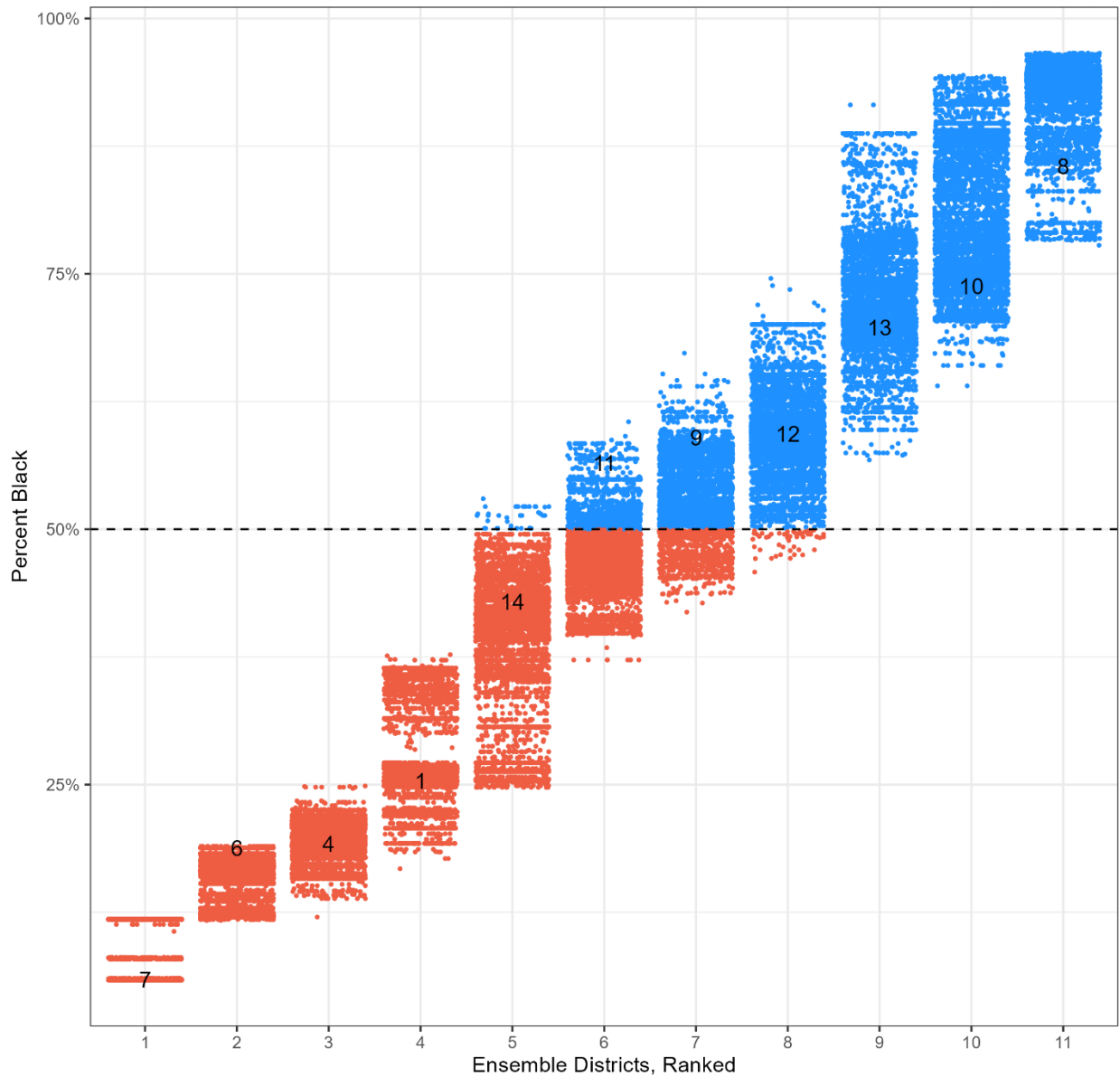| Comparison of Compactness Scores, Hickory vs. Demonstration House												
District:	**1**	**4**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	
Reock												
Demonstration	0.435	0.436	0.283	0.317	0.376	0.454	0.279	0.469	0.451	0.413	0.413	
Hickory	0.483	0.295	0.244	0.317	0.217	0.282	0.173	0.322	0.338	0.358	0.536	
Polsby-Popper												
Demonstration	0.294	0.218	0.284	0.363	0.364	0.483	0.435	0.702	0.444	0.506	0.473	
Hickory	0.417	0.226	0.186	0.228	0.213	0.330	0.327	0.336	0.456	0.333	0.594	

14.   The various partisan fairness metrics are likewise substantially similar, regardless of what dataset is used (2020 Presidential, 2016-2020 statewide races, or 2012-2020 statewide races). This is unsurprising, since almost all the precincts being shuffled around are Democratic-leaning precincts. Note that these metrics are calculated on a statewide basis; the districts that are not changed are included in the calculations as they were drawn in the Hickory Plan.

Partisan Fairness Metrics, Hickory vs. Demonstration, MI House								
	Efficiency Gap		Mean Median		Democratic Wins		Lopside Margins	
Source	Hickory	Demon.	Hickory	Demon.	Hickory	Demon.	Hickory	Demon.
2020 Pres.	−0.0510	−0.0510	−0.0154	−0.0154	54	54	0.0507	0.0523
2016-2020	−0.0385	−0.0385	−0.0180	−0.0180	57	57	0.0513	0.0525
2012-2020	−0.0352	−0.0352	−0.0217	−0.0217	58	58	0.0495	0.0500

15.   Finally, this map is not a racial gerrymander. First, as demonstrated above, this map doesn't sacrifice any traditional redistricting principle to racial considerations – county splits are minimized (as are municipal splits), communities of interest are respected, districts are compact, etc. It creates six majority Black districts by virtue of the way Black voters are distributed in the Detroit area (it also retains another three majority Black districts from the Hickory Plan).
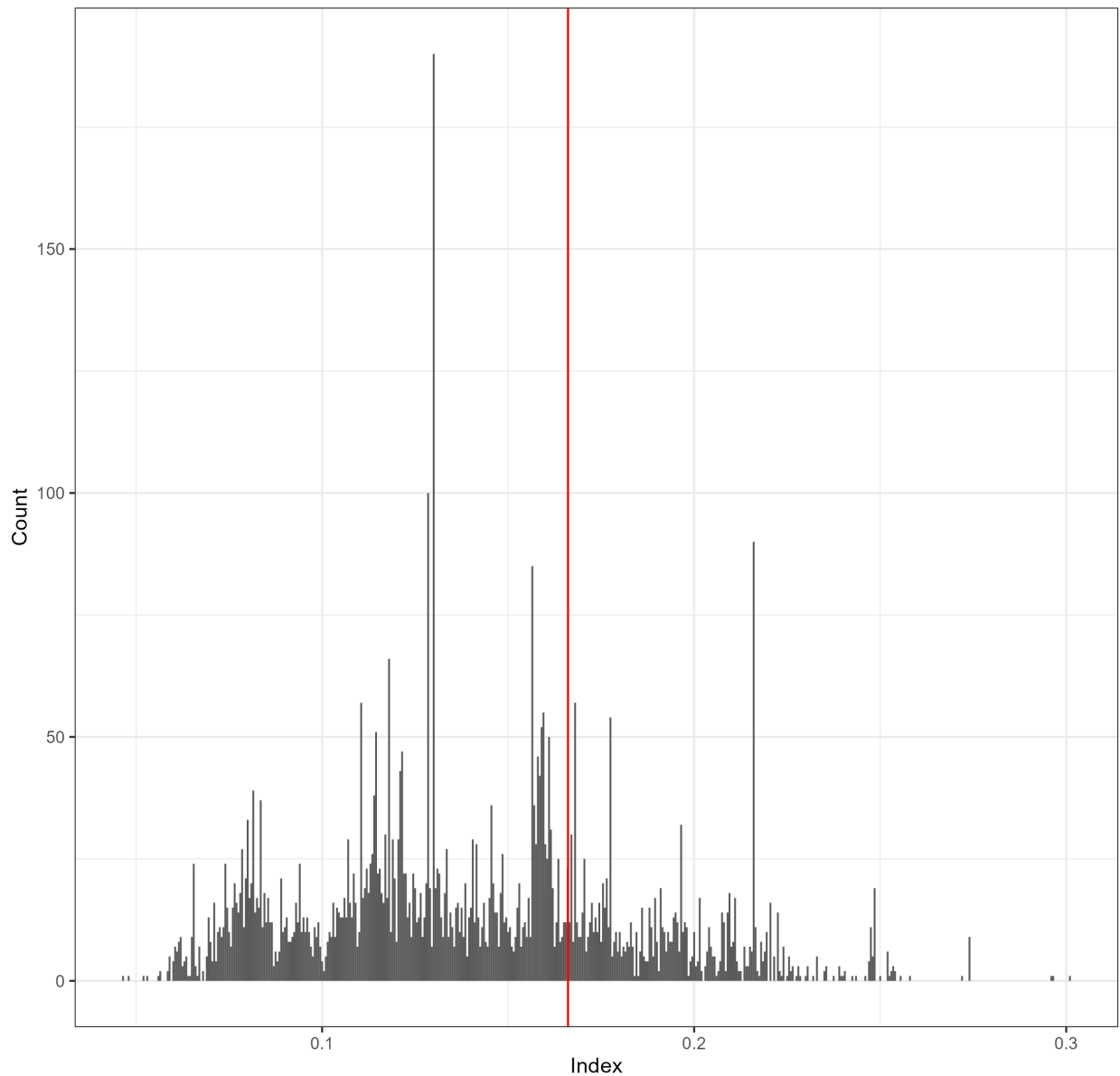
16.   I've also re-run the simulations from my initial report in this case. For these simulations I set the same constraints that I had operated under drawing this map. First, Districts could only cross the Macomb/Oakland, Macomb/Wayne, and Oakland/Wayne boundaries one time each. Municipalities and townships were kept intact, with the exceptions of Detroit, Warren, Huntington Woods and Roseville. The dotplots look like this:

Black VAP Share by Simultated District (Black Dot = Demonstration Plan)

17.   The districts all fall within the range of the dotplots, though not all districts are located at the center of the dotplot range. This reflects the natural variability that can occur for reasons unrelated to race. The "stripes" visible for District 7 illustrate the need to remove districts beyond the ones struck down by this Court; even with the removal of Hickory District 6, there are only a handful of ways to configure these precincts and cities. This "striping" occurs when the program draws only a handful of district configurations in an area.

18.   As the Gerrymandering Index illustrates, these changes are not so substantial as to give rise to an inference that race actually predominated. Here, the red line reflects the Gerrymandering Index for the demonstration maps. It falls squarely within the range of the gerrymandering indices for the ensemble.
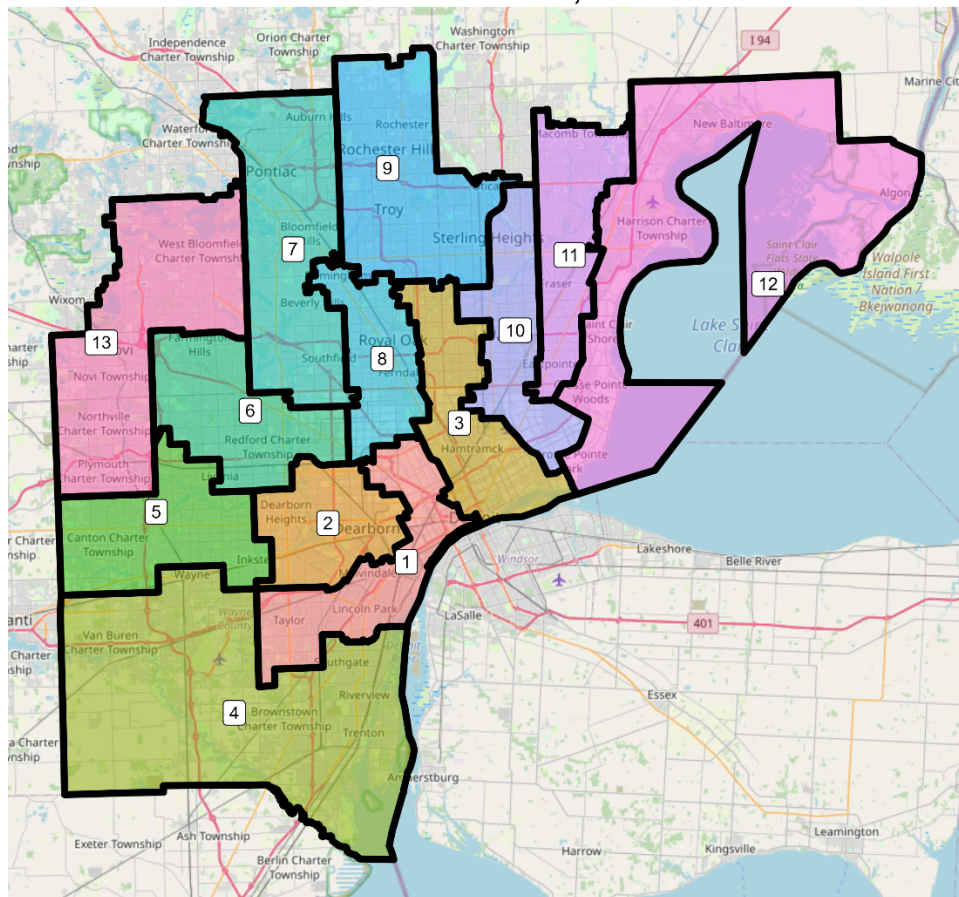
19.   For the Senate, I redrew the districts declared unconstitutional by this Court: districts 1, 3, 6, 8, 10 and 11. I also allowed the boundaries of districts 2 and 12 to change for reasons similar to those described above. In particular, retaining District 12 in its present form results in either a District 11 that is almost identical to its current form (if it traverses the Macomb-Wayne border), or in a badly distorted District 8. These maps were drawn over the afternoons of the 30th and 31st of December.
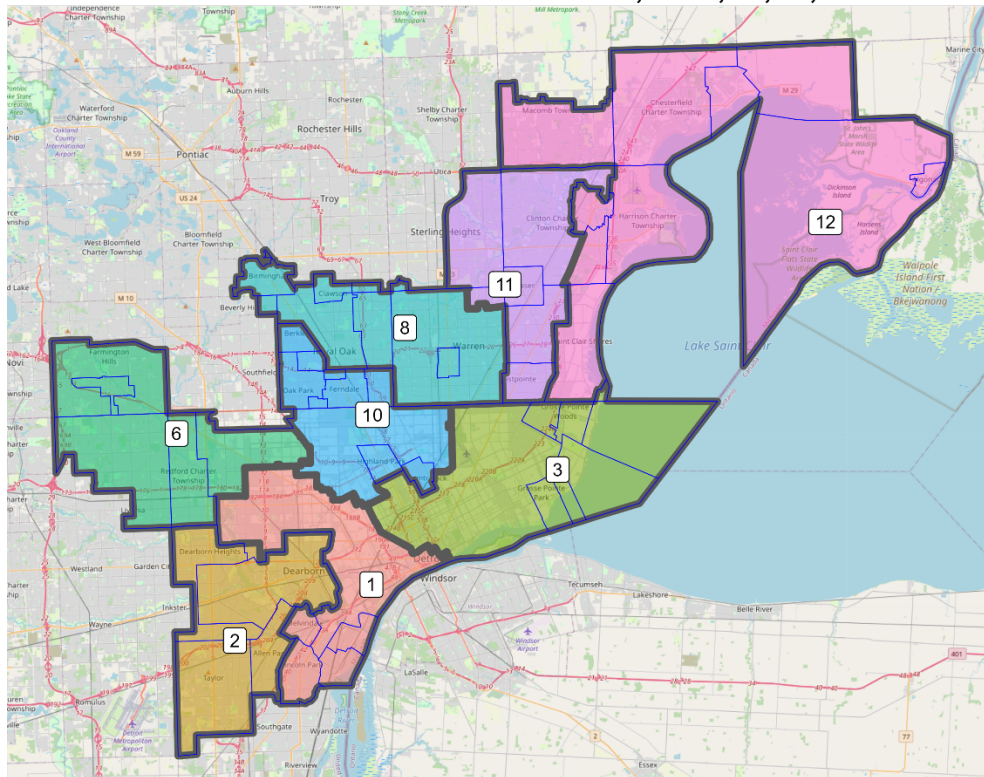
20.   While I could justify redrawing District 7 for similar reasons (in particular, the shape of District 6 is constrained by the retention of District 7), I was able to conceive an adequate remedy without doing so. Therefore I did not change it.

21.   As a reference point, the Detroit-area Linden districts are as follows. The changed districts are contained in the subsequent image.

Linden Districts, 1-13

Demonstration Senate Districts, 1-3, 6, 8, 10-12

22.   Once again, these maps only traverse the Wayne-Macomb border once, the Wayne-Oakland border once, and the Oakland-Macomb border once. Detroit is split, as are the City of Warren and Clinton charter township.

23.   In general, the redrawn districts are more compact than their counterpart original districts. The average Reock score for the Redrawn Districts is 0.3523, while the average Reock score for the counterparts in the Linden map is 0.3520. The average Polsby-Popper score for the Redrawn Districts is 0.321, while the average Polsby-Popper score for the counterparts in the Linden map is 0.284.
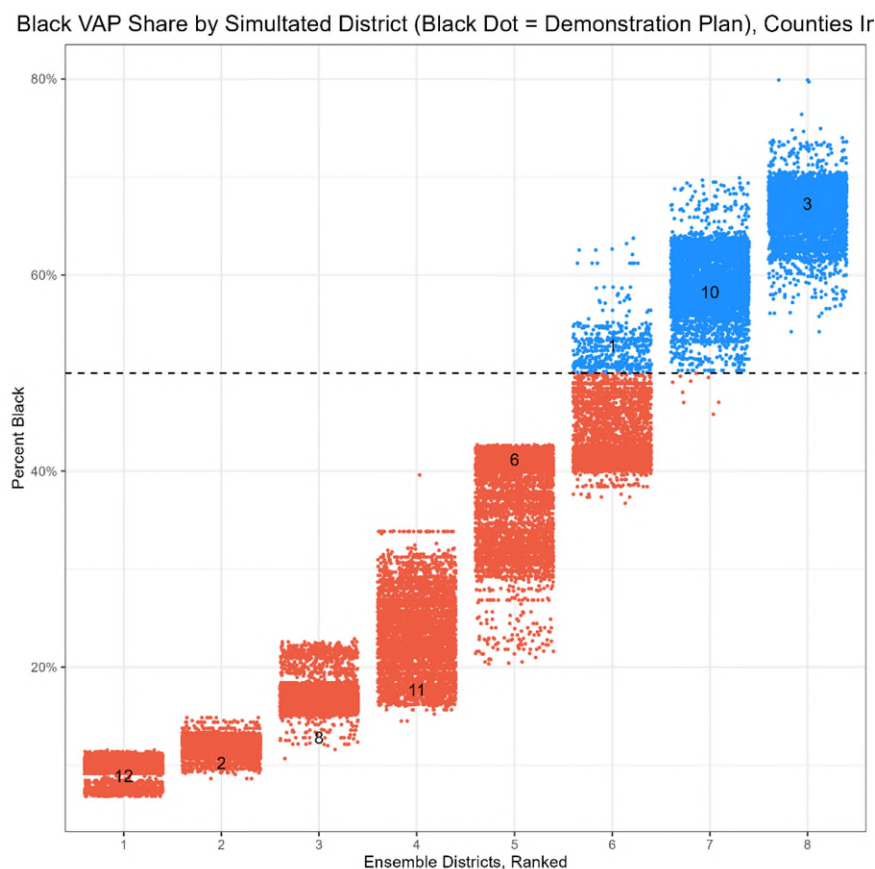
Comparison of Compactness Scores, Linden vs. Demonstration Senate

District:	1	2	3	6	8	10	11	12
Reock								
Demonstration	0.343	0.428	0.247	0.335	0.262	0.410	0.464	0.328
Linden	0.275	0.495	0.298	0.379	0.437	0.317	0.290	0.325
Polsby-Popper								
Demonstration	0.217	0.340	0.418	0.375	0.301	0.366	0.366	0.181
Linden	0.225	0.477	0.202	0.414	0.257	0.252	0.270	0.176

24.   The various partisan fairness metrics are likewise substantially similar, regardless of what dataset is used (2020 Presidential, 2016-2020 statewide races, or 2012-2020 statewide races). This is unsurprising, since almost all the precincts being shuffled around are Democratic-leaning precincts. Note that these metrics are calculated on a statewide basis; the districts that are not changed are included in the map as they were drawn in the Linden Plan.

Partisan Fairness Metrics, Linden vs. Demonstration, MI Senate

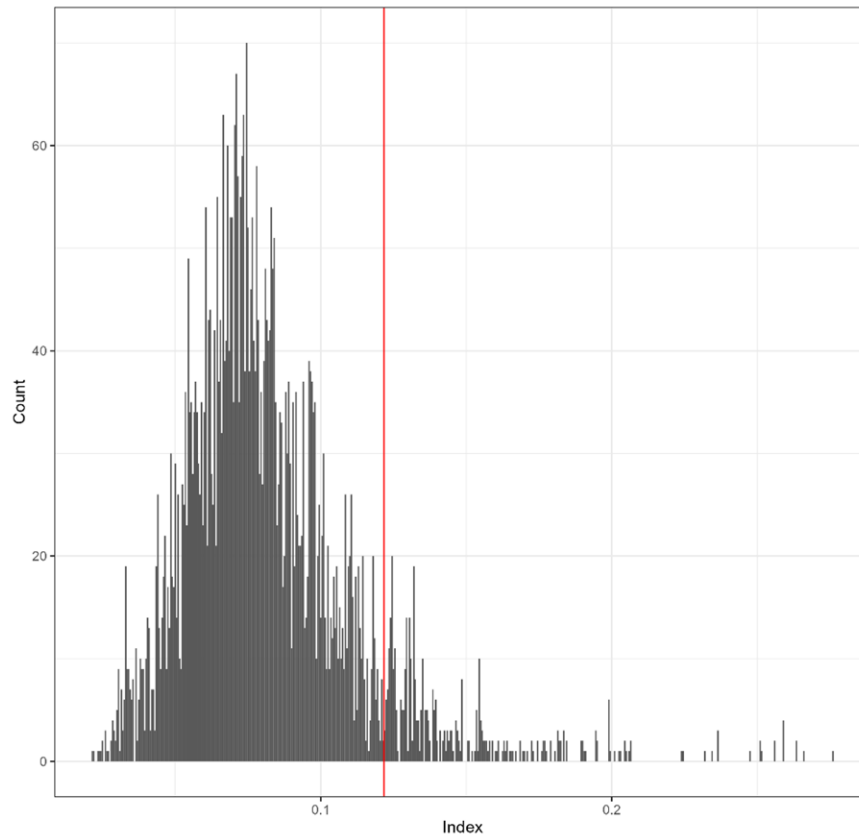| Source	Efficiency Gap		Mean Median		Democratic Wins		Lopside Margins	
	Linden	Demon.	Linden	Demon.	Linden	Demon.	Linden	Demon.
2020 Pres.	0.0061	0.0059	0.0000	0.0036	21	21	0.0168	0.0190
2016-2020	−0.0603	−0.0598	−0.0122	−0.0122	19	19	0.0560	0.0584
2012-2020	−0.0334	−0.0324	−0.0071	−0.0071	20	20	0.0463	0.0472

25.   Finally, this map is not a racial gerrymander. First, as demonstrated above, this map does not sacrifice any traditional redistricting principle to racial considerations – county splits are minimized (as are municipal splits), communities of interest are respected, districts are compact, etc. It creates three majority-Black districts simply because of the way that Black voters are naturally distributed within the City of Detroit.

26. I have also re-run the simulations from my initial report in this case. For these simulations I set the same constraints up that I had operated under drawing this map. First, Districts could only cross the Macomb/Oakland, Macomb/Wayne, and Oakland/Wayne boundaries one time each. Municipalities and townships were kept intact, with the exceptions of Detroit, Warren, Huntington Woods, Roseville and Clinton Charter Township. The dotplots look like this:

Black VAP Share by Simultated District (Black Dot = Demonstration Plan), Counties Ir

27. The districts all fall within the range of the dotplots, although not all districts are located at the center of the dotplot range. This reflects the natural variability that can occur for choice made for reasons unrelated to race. As the Gerrymandering Index illustrates, however, these changes are not so substantial as to give rise to an inference that race actually predominated. Here, the red line reflects the Gerrymandering Index for the demonstration maps. It falls within the range of the gerrymandering indices for the ensemble.

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Values of Racial Gerrymandering Index, Simulated Maps (Red Line = Demonstration F

28.   There may be other problems with the maps that the Commission may wish to address. These are simply submitted to demonstrate that it is possible to remedy the defects that the Court identified in the Hickory and Linden plans without redrawing the entire map, and to do so relatively quickly.

29.   I was also asked by counsel to describe my experience as a special master for the Commonwealth of Virginia. The Virginia Independent Redistricting Commission deadlocked and was unable to produce a plan. The Supreme Court of Virginia requested both of the major parties in the Commonwealth to submit lists of possible special masters.

30.   The parties were then given an opportunity to object to the other party's slate. The court struck the initial slate of special masters for the Republicans after hearing the parties' objections. It then selected me from the second list of names proposed by Republicans, and Dr.

Bernard Grofman from the list of names proposed by Democrats. We were immediately instructed by that court to shed any partisan trappings we may have held and were informed that going forward we represented the Supreme Court of Virginia and the residents of the Commonwealth of Virginia only.

31. With those instructions, we found that we were able to come to agreement relatively quickly on a set of maps. In a month's time, we drew from scratch 11 Congressional districts, 40 Senate districts, and 100 House of Delegates districts. We then submitted those maps for public comment, read all those comments (which numbered in the thousands), and addressed those comments to the best of our ability with a second set of maps. In that timeframe we also produced two lengthy memos of greater than 50 pages in length.

32. Those are, to my knowledge, the only maps from a Southern state that have not been challenged in Court this cycle, including as either a partisan or racial gerrymander, or as violating the Voting Rights Act of 1965.

33. Given the time it took me to complete the proof-of-concept maps above, and given that only about 20 districts need to be redrawn to remedy the constitutional violations identified by this Court, if this Court were to follow the process proposed by the Supreme Court of Virginia, experienced special masters likely could finish the process of redrawing these districts in short order.

34. If sworn as a witness, I can competently testify, based on my personal knowledge, as to the facts stated above. I declare under the penalty of perjury that the foregoing is true and correct.

By: */s/ Sean P. Trende*

Date: January 1, 2024